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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,078	05/06/2004	Hannah Spokane	1-24414	7855
46582	7590	01/24/2006		
MACMILLAN, SOBANSKI & TODD, LLC ONE MARITIME PLAZA - FOURTH FLOOR 720 WATER STREET TOLEDO, OH 43604			EXAMINER BELLINGER, JASON R	
			ART UNIT	PAPER NUMBER
			3617	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/840,078	<b>Applicant(s)</b> SPOKANE ET AL	
	<b>Examiner</b> Jason R. Bellinger	<b>Art Unit</b> 3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 22-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Applicant's election without traverse of a composite wheel hub, drawn to claims 1-21, in the reply filed on 7 December 2005 is acknowledged.
2. Claims 22-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7 December 2005.

***Drawings***

3. The drawings are objected to because the drawings appear to be a photocopy of photographs or are rendered drawings that do not clearly show all of the elements of the invention. The drawings are too dark and/or blurry to clearly show the details of the invention.

The reference to Figures 1A, 4D, and 5D at the bottom of Figure 6 should be removed.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 218.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

5. The disclosure is objected to because of the following informalities: The term “lug” or “lugs” should be replaced with the term --extension-- or --extensions-- to more clearly describe the invention, given the fact that a “lug” is generally considered to be an element that fastens a wheel to a hub in the wheel art.

Appropriate correction is required.

***Claim Objections***

6. Claims 3, 8, 10, 15, and 19 are objected to because of the following informalities: The term “lugs” should be replaced with the term --extensions-- throughout these claims, for the reasons set forth in paragraph 5 above. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Reid.

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First, it should be noted that the claims contain product-by-process limitations, namely that various elements of the hub are either "cast" or "non-cast" materials, and references to a "casting process". Given the fact that these process limitations are set forth in an apparatus (or product) claim, the process limitations are given little to no patentable weight. See MPEP 2113.

In figure 6, Reid shows a composite wheel hub having an inner hub portion A formed from a first material, and an outer hub portion B formed from a second material that is joined to the inner hub portion A. The inner hub portion A is a "non-cast" material, while the outer hub portion B may be a "cast" material. The inner hub portion is provided with a plurality of "lugs" *b'* that are "embedded" in the outer hub portion B (namely by being located between "lugs" *b*). The outer hub portion B may be formed from iron. The inner A and outer B hub portions are joined together by a mechanical connection.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5, 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid in view of Vignotto et al ('62764). Reid contains all of the limitations as set forth in paragraph 8 above, and further shows the inner hub portion A

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having opened inboard and outboard ends, a generally axially extending main body, and the outboard end having a plurality of circumferentially spaced "lugs" *b'*.

Reid does not show the inner hub portion formed from steel. Vignotto et al teaches the use of a hub having an inner portion 10 formed from steel. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the inner hub portion of Reid from steel for the purpose of increasing the strength and durability of the wheel hub, thus reducing wear.

Reid also does not show a bearing assembly supported by a portion of the inner, outer, or both wheel hub portions. Vignotto et al teaches the use of a bearing assembly 16 supported by the inner hub portion 10. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a bearing assembly supported by any portion of the hub assembly of Reid, for the purpose of allowing the hub assembly to freely rotate with respect to a vehicle axle, thus reducing wear on the hub.

**11.** Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid in view of Daberkoe. Reid contains all of the limitations as set forth in paragraph 8 above, and further shows the outer hub portion *B* that may be formed from "non-cast" steel. The outer hub portion *B* includes a plurality of "lugs" *b* that is embedded in the inner hub portion *A*.

Reid does not disclose that the inner hub portion if formed from a cast material, such as iron. Daberkoe teaches the use of a wheel hub having an inner hub portion 10

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that is formed from a cast material. While this material is not identified as being cast iron, it is well known in the art for wheel hubs to be formed from cast iron. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the inner hub portion of Reid from cast iron to increase the durability and strength of the wheel hub.

The hub portions of Reid as modified by Daberkoe may be formed from different "cast" materials dependent upon availability and cost.

**12.** Claims 1-11, 14, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vignotto et al ('674) in view of Daberkoe.

First, it should be noted that the claims contain product-by-process limitations, namely that various elements of the hub are either "cast" or "non-cast" materials, and references to a "casting process". Given the fact that these process limitations are set forth in an apparatus (or product) claim, the process limitations are given little to no patentable weight. See MPEP 2113.

Vignotto et al ('674) shows a composite wheel hub having an inner hub portion 20 formed from a first material, and an outer hub portion 10 that may be formed from a second material that is joined to the inner hub portion 20. The inner hub portion 20 is a "non-cast" material. The inner hub portion is provided with a plurality of "lugs" 21 that is "embedded" in the outer hub portion 10. The inner 20 and outer 10 hub portions are joined together by a mechanical connection.



The inner hub portion 10 is formed from steel, and could be "cast" or "non-cast". The outer hub portion 10 includes a generally stepped body with open inboard and outboard ends, and a generally axially extending main body, which includes a radially outwardly extending flange 12. The inner hub portion 20 includes open inboard and outboard ends, a generally axially extending main body, and a plurality of circumferentially spaced "lugs" 21 on the outboard end. The inboard end of the inner hub portion 20 includes a center flange 22. A bearing assembly is supported on a portion of the outer hub portion 10.

Vignotto et al ('674) does not disclose that the outer hub portion is formed from a cast material, such as iron. Daberkoe teaches the use of a wheel hub having an outer hub portion 10 that is formed from a cast material. While this material is not identified as being cast iron, it is well known in the art for wheel hubs to be formed from cast iron. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the outer hub portion of Vignotto et al from cast iron to increase the durability and strength of the wheel hub.

The hub portions of Vignotto et al as modified by Daberkoe could be formed from different "cast" materials dependent upon availability and cost.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vignotto et al ('674) in view of Daberkoe as applied to claims 1-11, 14, and 18-21 above, and further in view of Vignotto et al ('62764). Vignotto et al ('674) as modified by Daberkoe does not disclose that the outer hub portion is formed from steel.

Vignotto et al ('62764) teaches the use of a hub having an outer portion 10 formed from steel. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the outer hub portion of Vignotto et al ('674) as modified by Daberkoe from steel for the purpose of reducing corrosion between the hub assembly and other components of a vehicle wheel assembly (such as the wheel itself or brake elements).

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show composite wheel hubs. For example, Housel shows a composite wheel hub.

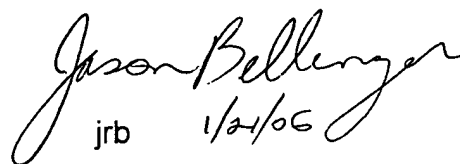
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Bellinger whose telephone number is 571-272-6680. The examiner can normally be reached on Mon - Thurs (9:00-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger  
Examiner  
Art Unit 3617

  
jrb 1/24/06